

Abstract

This invention relates to an anode-supported solid oxide fuel cell that is resistant to volume-change-induced cracking. The fuel cell has an anode support
5 layer comprising a porous ion conducting structure impregnated with nickel-containing material. The ion-conducting structure may be composed of yttria-stabilized zirconia. The nickel-containing material is impregnated in the pores of the ion conducting structure such that any expansion in volume associated with the
10 oxidation of Ni to NiO occurs substantially within the pores of the anode support layer, thereby minimizing any volume expansion of the anode support layer.